REMARKS

The Office Action dated December 23, 2008, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

By this Response, claims 1, 10, 14, 18, 22-23, and 25 have been amended to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Support for the above amendments is provided in the Specification, at least, in paragraph [0028]. Accordingly, claims 1-8, 10-12, and 14-26 are currently pending in the application, of which claims 1, 10, 14, 16, 18, and 21-26 are independent claims.

In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Claim Rejections under 35 U.S.C. §102(e)

The Office Action rejected claims 1-6, 8, 10-12, 14-16, and 18-26 under 35 U.S.C. §102(e) as allegedly anticipated by Leung, *et al.* (U.S. Patent No. 6,760,444) ("Leung"). The Office alleged that Leung discloses or suggests each and every claim element recited in claims 1-6, 8, 10-12, 14-16, and 18-26. Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in Leung.

Claim 1, upon which claims 2-8 depend, recites an apparatus. The apparatus includes an application device, a service device, and a communication network configured to connect the application device to the service device. The apparatus further includes an internet protocol security service unit configured to provide one or more internet protocol security services including at least one of authentication services and encryption services. The internet protocol security service unit is deployed in the service device. The apparatus further includes at least one management client configured to issue, in response to communication received at the application device from a user equipment via a session key management protocol, security association management requests to create and manage, with the session key management protocol, security associations for use by the provided internet protocol security services. The at least one management client is deployed in the application device. Further, the apparatus includes a management server configured to receive the security association management requests issued from the at least one management client and to respond, in connection with the internet protocol security service unit, to the security association management requests received at the management server. The management server is deployed in the service device.

Claim 10, upon which claims 11-12 depend, recites a method. The method includes providing one or more internet protocol security services including at least one of authentication services and encryption services from an internet protocol security service unit. The internet protocol security service unit is deployed in a service device.

The method further includes issuing, in response to communication received at an application device from a user equipment via a session key management protocol, security association management requests to create and manage, with the session key management protocol, security associations for use by the provided internet protocol security services, from at least one management client. The at least one management client is deployed in an application device. Further, the method includes receiving in a management server the security association management requests issued from the at least one management client, and responding, in connection with the internet protocol security service unit, to the security association management requests received at the management server. The management server is deployed in the service device. The application device is connected to the service device by a communication network.

Claim 14, upon which claim 15 depends, recites an apparatus. The apparatus includes at least one management client configured to issue, in response to communication received at the apparatus from a user equipment via a session key management protocol, security association management requests to create and manage, with the session key management protocol, security associations for use by on or more internet protocol security services including at least one of authentication services and encryption services provided by an internet protocol security service unit external to the apparatus. The apparatus further includes an interface configured to communicate the issued security association management requests to a management server external to the

apparatus, The management server is configured to respond to the security association management requests in connection with the internet protocol security service unit.

Claim 16, upon which claim 17 depends, recites an apparatus. The apparatus includes an internet protocol security service unit configured to provide one or more internet protocol security services including at least one of authentication services and encryption services. The apparatus further includes a management server configured to receive security association management requests issued from at least one management client external to the apparatus and to respond, in connection with the internet protocol security service unit, to the received security association management requests.

Claim 18, upon which claims 19-20 depend, recites a method. The method includes issuing, in response to communication received at an application device from a user equipment via a session key management protocol, from at least one management client deployed in the application device, security association management requests to create and manage, with the session key management protocol, security associations for use by one or more internet protocol security services including at least one of authentication services and encryption services provided by an internet protocol security service unit external to the application device. The method further includes communicating at least one of the issued security association management requests to a management server external to the application device. The management server is configured to respond to the security association management requests in connection with the internet protocol security service unit.

Claim 21 recites a method. The method includes providing one or more internet protocol security services including at least one of authentication services and encryption services from an internet protocol security service unit. The internet protocol security service unit is deployed in a service device. The method further includes receiving security association management requests issued from at least one management client external to the service device and responding, in connection with the providing the one or more internet protocol security services, to the received security association management requests.

Claim 22 recites a computer readable storage medium encoded with instructions that, when executed by a computer, performs a process. The process includes providing one or more internet protocol security services including at least one of authentication services and encryption services from an internet protocol security service unit. The internet protocol security service unit is deployed in a service device. The process further includes issuing, in response to communication received at an application device from a user equipment via a session key management protocol, security association management requests to create and manage, with the session key management protocol, security associations for use by the provided internet protocol security services, from at least one management client. The at least one management client is deployed in the application device. Further, the process includes receiving in a management server the security association management requests issued from the at least one management client, and responding, in connection with the internet protocol security service unit, to the security

association management requests received at the management server. The management server is deployed in the service device. The application device is connected to the service device by a communication network.

Claim 23 recites a computer readable storage medium encoded with instructions that, when executed by a computer, performs a process. The process includes issuing, in response to communication received at an application device from a user equipment via a session key management protocol, from at least one management client deployed in the application device, security association management requests to create and manage, with the session key management protocol, security associations for use by one or more internet protocol security services including at least one of authentication services and encryption services provided by an internet protocol security service unit external to the application device. The process further includes communicating at least one of the issued security association management requests to a management server external to the application device, the management server configured to respond to the security association management requests in connection with the internet protocol security service unit.

Claim 24 recites a computer readable storage medium encoded with instructions that, when executed by a computer, performs a process. The process includes providing one or more internet protocol security services including at least one of authentication services and encryption services from an internet protocol security service unit. The internet protocol security service unit is deployed in a service device. The process further

includes receiving security association management requests issued from at least one management client external to the service device and responding, in connection with the providing the one or more internet protocol security services, to the received security association management requests.

Claim 25 recites an apparatus. The apparatus includes managing means for issuing, in response to communication received at the apparatus from a user equipment via a session key management protocol, security association management requests to create and manage, with the session key management protocol, security associations for use by one or more internet protocol security services including at least one of authentication services and encryption services provided by an internet protocol security service means external to the apparatus. The apparatus further includes communicating means for communicating the issued security association management requests to a management server external to the apparatus, the management server configured to respond to the security association management requests in connection with the internet protocol security service means.

Claim 26 recites an apparatus. The apparatus includes internet protocol security service means for providing one or more internet protocol security services including at least one of authentication services and encryption services. The apparatus further includes receiving means for receiving security association management requests issued from at least one management client external to the apparatus and for responding, in

connection with the internet protocol security service means, to the received security association management requests.

As will be discussed below, Leung fails to disclose or suggest each and every element recited in claims 1-6, 8, 10-12, 14-16, and 18-26, and therefore fails to provide the features discussed above.

Leung is directed to mobile IP authentication. In particular, Leung describes a method and apparatus for authenticating a mobile node. A server is configured to provide a plurality of security associations associated with a plurality of mobile nodes. A packet identifying a mobile node may then be sent to the server from a network device such as a home agent. A security association for the mobile node identified in the packet may then be sent to the network device to permit authentication of the mobile node. Alternatively, authentication of the mobile node may be performed at the server by applying the security association (Leung, Abstract; col. 4, line 65, to col. 5, line 36).

Applicants respectfully submit that Leung fails to disclose or suggest each and every element recited in claims 1, 10, 14, 16, 18, and 21-26. In particular, Leung fails to disclose or suggest, at least,

> an internet protocol security service unit configured to provide one or more internet protocol security services comprising at least one of authentication services and encryption services, said internet protocol security service unit deployed in said service device;
>
> at least one management client configured to issue, in response to communication received at said application device from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol,

> security associations for use by said provided internet protocol security services, said at least one management client deployed in said application device; and
>
> a management server configured to receive said security association management requests issued from said at least one management client and to respond, in connection with said internet protocol security service unit, to said security association management requests received at said management server, said management server deployed in said service device,

as recited in claim 1.

Rather, as previously discussed, Leung describes mobile IP authentication, whereby a centralized repository, *e.g.*, the server, is provided to store security associations for mobile nodes. Retrieval of security associations may be performed in a single location. Accordingly, security associations may be retrieved to authenticate mobile nodes at a Home Agent and at the server. Leung further describes that the Home Agent receives a registration request from the mobile node, and subsequently sends a packet identifying the mobile node to a security server. The security server provides the security associations to the mobile node.

However, Leung fails to describe or suggest a distribution of the actual internet protocol security service and its associated key management to different devices. Specifically, Leung fails to describe or suggest an arrangement in which the security association management application is divided into a management client and a management server, whereby the management server is deployed in the same device as

the internet protocol service unit, and the management client is deployed at another device of its own.

Furthermore, Leung fails to disclose or suggest, at least, "at least one management client configured to issue, in response to communication received at said application device from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by said provided internet protocol security services, said at least one management client deployed in said application device," as recited in claim 1 (emphasis added).

Rather, Leung merely describes that the mobile node communicates with the Home Agent using MIP extensions (Leung, col. 8, lines 27-36).

Furthermore, the teachings of Leung fail to mention that security associations or authentication services are handled by the server's *internet protocol security services*. In fact, Leung fails to disclose or suggest internet protocol security services at all. Rather, Leung clearly describes that "a server handles security associations for a home agent," *i.e.*, Leung indicates that the server acts as a security association repository for the home Agent. Leung further mentions that, in response to receiving a packet identifying the mobile node (e.g., an authorization request packet) from the home agent, the server obtains a security association for the mobile node identified in this packet and sends the security association to the home agent (Leung, col. 7, lines 33-40). The server does not participate

in this authentication. Rather, the actual authentication is performed solely by the home agent.

Additionally, Internet protocol security or IPsec is a set of protocols for providing confidentiality services and authentication services to IP traffic. In contrast, the authentication process discussed in Leung relates to a mobile IP protocol, and more particularly to registration of a mobile node with its home agent. One of ordinary skill in the art would understand that the mobile IP protocol discussed in Leung is a completely different technology from IPsec.

Nevertheless, even if the authentication process of the mobile IP protocol discussed in Leung were considered to read upon the authentication processes of IPsec, Leung still fails to disclose or suggest an arrangement, as taught by certain embodiments of the present invention, in which the security association management application is divided into a management client and a management server (two separate elements), wherein the management server is deployed at a same device with the internet protocol security service unit, and the management client is deployed at another device on its own, as discussed above.

Furthermore, Applicants respectfully submit that it would be improper to conclude that Leung uses a *session* key management protocol from the teachings of Leung that security associations possibly include keys. Since the security association discussed in Leung already defines the key and algorithm to be applied during the authentication process (*e.g.*, Leung; col. 3, lines 6-8), there is no need for a separate key management

protocol. Furthermore, even if a key management protocol could be used, Leung fails to provide motivation for it to be a *session* key management protocol. Accordingly, Leung fails to disclose or suggest each and every claim element recited in claim 1.

Claims 10, 14, 16, 18, and 21-26 each have their own claim scope, but also contain similar limitations recited in claim 1. Accordingly, for similar reasons noted above for claim 1, Applicants respectfully submit that Leung fails to disclose or suggest each and every element recited in claims 10, 14, 16, 18, and 21-26.

Claims 2-6 and 8 depend from claim 1. Claims 11-12 depend from claim 10. Claim 15 depends from claim 14. Claim 17 depends from claim 16. Accordingly, claims 2-6, 8, 11-12, and 15 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 1-6, 8, 10-12, 14-16, and 18-26 under 35 U.S.C. §102(e) and respectfully submit that claims 10, 10, 14, 16, 18, and 21-26, and the claims that depend therefrom, are now in condition for allowance.

Claim Rejections under 35 U.S.C. §103(a)

The Office Action rejected claims 7 and 17 under 35 U.S.C. §103(a) as being allegedly unpatentable over Leung. Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in Leung.

Applicants note that the Office Action indicated that claim 17 was rejected under 35 U.S.C. § 103(a) based on the description in Leung, but referred to features recited in claim 7 in taking Official Notice that it is well-known in the art to implement computer connection using a local network. Applicants submit that the Office Action appears to be rejecting both claims 7 and 17, and therefore traverse the Office Action's rejections of both claims 7 and 17 under 35 U.S.C. §103(a) based on Leung.

> As previously noted above, Leung fails to disclose or suggest each and every element recited in claims 1 and 16. Specifically, Leung fails to disclose or suggest, at least,
> an internet protocol security service unit configured to provide one or more internet protocol security services comprising at least one of authentication services and encryption services, said internet protocol security service unit deployed in said service device;
>
> at least one management client configured to issue, in response to communication received at said application device from a user equipment via a session key management protocol, security association management requests to create and manage, with said session key management protocol, security associations for use by said provided internet protocol security services, said at least one management client deployed in said application device; and
>
> a management server configured to receive said security association management requests issued from said at least one management client and to respond, in connection with said internet protocol security service unit, to said security association management requests received at said management server, said management server deployed in said service device,

as recited in claim 1 (emphasis added), and similarly recited in claim 16.

Claim 7 depends from claim 1. Claim 17 depends from claim 16. Accordingly, claims 7 and 17 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 7 and 17 under 35 U.S.C. §103(a) and respectfully submit that claims 1 and 16, and the claims that depend therefrom, are now in condition for allowance.

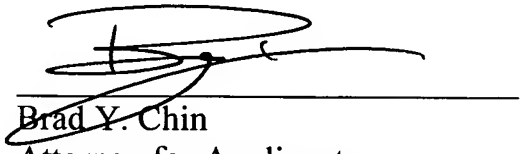
CONCLUSION

In conclusion, Applicants respectfully submit that Leung fails to disclose or suggest each and every element recited in claims 1-8, 10-12, and 14-26. The distinctions previously noted are more than sufficient to render the claimed invention unanticipated and non-obvious. It is therefore respectfully requested that all of claims 1-8, 10-12, and 14-26 be allowed, and this present application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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